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ABSTRACT

A study was conducted to determine the influence of a holistic versus a phonic approach in beginning reading on children's comprehension scores at the end of grade two. Two groups, each of approximately 350 students, were studied. Group one began reading instruction in first grade using the "Early-to-Read i.t.a. Program" (initial teaching alphabet), followed by either Lippincott or Ginn basals in second grade. Group two began reading instruction using the Houghton Mifflin reading series, and continued with this series or used the Ginn basals in second grade. At the end of second grade each child was given the Iowa Test of Basic Skills to determine comprehension. Group one, which had the heavily phonic based i.t.a. program, scored significantly higher than group two, which had the more meaning-based approach to reading. Group two had a much higher percentage of students scoring at the extremes of the testing range, suggesting that meaning-based instruction produced greater differences in achievement and might be a handicap for less able students but an advantage for more able students. There was no evidence to indicate whether the significantly higher achievement in group one was short term or would persist into the higher grades.
(HTH)

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THE EFFECT OF BEGINNING READING APPROACHES
ON COMPREHENSION

by

Virginia Hershey

Presented in Partial Fulfillment
of Requirements for the Degree
Master of Arts

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Introduction

Leaders in the field of reading have long acknowledged the importance of a good beginning to reading instruction. The two dominant philosophies which have prevailed over a great period of time are the "subskill" or "phonic" approach and the "holistic" or "whole word" approach. These terms were redefined by Jeanne Chall in Learning to Read: The Great Debate in 1967 as "code emphasis" and "meaning emphasis". The controversy between decoding and meaning approaches can be traced back to the Nineteenth Century when men such as Josiah Bumstead and Horace Mann advocated the holistic approach in place of the ABC spelling method. In the 1950's the pendulum in reading swung toward the subskill or decoding approach with the publication of Why Johnny Can't Read by Rudolf Flesch.

The 1960's were a time for investigation and included the large Cooperative Research Program in First-Grade Reading Instruction (Bond and Dykstra 1967) followed by the second grade phase of the same project (Dykstra 1968). The second grade study was concerned with three questions: the relationship of beginning first grade pupil's reading characteristics to achievement in reading at the end of second grade, the comparison of i.t.a., linguistic, language experience and

phonic/linguistic programs with basal programs, and the influence on second grade achievement of the project, method and materials used for instruction.

Among the results of this massive study, no consistent pattern was found between programs in achievement in paragraph comprehension. The i.t.a. programs produced higher achievement in word recognition and spelling at the end of second grade than the basal approach. Also, "Evidence available at this point is insufficient to test the contention of many reading authorities that early concentrated emphasis on phonics and rapid introduction of vocabulary have a negative effect on reading fluency and comprehension in later grades." (Dykstra 1968p77).

Linguistic research by investigators such as Smith (1971) and Goodman (1965) has emphasized the importance of both syntax and context clues for the beginning reader. In the 1970 Yearbook of the National Society for the Study of Education Ives and Ives (1970) state that the process of reading first involves decoding or translating written symbols into speech. Grapheme-phoneme relationships should be taught as they occur in words, not in isolation.

The use of the Initial Teaching Alphabet or i.t.a. has long been found to be a successful method of introducing beginning readers to phoneme-grapheme relation-

ships. Studies by Fry (1969) and Hayes and Wuest (1969) show that the comprehension level for the i.t.a. students was comparable or better to the other approaches with which it was compared. Advocates of i.t.a. have felt educators have focused too greatly on the purpose or goal of reading, comprehension, and too little on its process. (Mazurkiewicz 1968) Most research seems to indicate that subskill mastery is necessary for fluent reading. (Samuels and Schacter 1978)

Hypothesis

To provide additional information on this topic, a study was therefore conducted to determine the influence of a holistic versus a phonic approach in beginning reading on comprehension scores at the end of second grade. It was hypothesized that no significant difference in reading comprehension would exist between the two groups studied.

Definitions and Limitations

Achievement is defined as a desirable change in the process of learning that can be measured by a standardized test, in this investigation the ITBS.

Comprehension is defined as the ability to understand or perceive the stated or implied ideas contained

in a written passage.

It was assumed that the first grade population of the test district did not change significantly in the years 1977 and 1978. The scores used were all the second grade ITBS scores available from the district. This was done to minimize the effect of socio-economic levels within the town.

Comprehension was judged by the comprehension scores on the ITBS given at the end of the second grade and administered in a group setting. It is assumed that this test was administered appropriately and that the comprehension subtest was a valid and reliable test for determining reading comprehension. Since the reported reliability coefficient is high, .94, reliability is seen to have little importance in the outcome of the study.

It was also assumed that the experience and teaching ability of the staff remained constant during the test period.

The results of this study were limited by the unavailability of I.Q. scores for the second grade populations of this district but can be assumed to have changed little for each sample since all of the children in each group were used in this study.

Procedures

Two groups of approximately three hundred and fifty children from a suburban New Jersey school district were used for this study. Group one consisted of all the children in the district who began first grade in September 1977. There were 344 children in group one. Group two consisted of the 386 children who began first grade in September 1978.

Both groups included test scores for all the children in the district except for classified and special education students. All the children received the same standard kindergarden program preceding first grade.

Group one began reading instruction using the Early-to-Read i.t.a. Program (1964) published by i.t.a. Publication, Inc. At the second grade level they were instructed in reading using either the Lippincott or Ginn basals. Group two began reading instruction using the Houghton Mifflin Reading Series (1976) in grade one and continued with this series or used the Ginn basal in second grade.

In May of the second grade each child in the study was administered the Iowa Test of Basic Skills. For group one the test was given in 1979 and for group two in 1980. All of the scores for the comprehension

subtest section of these tests were obtained from the Central District office. They included the scores for all eight elementary schools in the district.

Each individual test score was recorded and means of the comprehension subtest scores from the ITBS were compared utilizing a t test.

Results

As noted in Table I below, the mean score for the 344 children in group one (1979) was 4.10. The mean score for the 386 children in group two (1980) was 3.78.

Table I

Comparison of Reading Comprehension Achievement of the I.T.A. and T.O. Beginning Reading Programs at the End of 2nd. Grade.

	Group One	Group Two
Number of children	344	386
Testing year	1979	1980
Mean Grade Equivalent Score	4.10	3.78
Standard Deviation	1.21	1.08
t		2.46

The significance of the t is below the 0.05 level of confidence and approaching the 0.01 level of confidence. The mean differences being significant

below the five percent level indicate that such differences could not have resulted by chance and give substance to the fact that the approach used for beginning reading instruction has an effect on comprehension levels at the end of second grade.

These differences indicate that group one, or the i.t.a.-Lippincott-Ginn group, had significantly higher comprehension scores. The difference appears to be the direct result of the instructional approach since relevant factors such as I.Q., teacher ability and socio-economic level were controlled by the large number of students included and the fact the scores were from two consecutive years in the same school district.

A further examination of the data shows that there is a higher percentage of children reading below grade level in sample two, the T.O. group, 22.8% compared with 13.4% for group one, the i.t.a. group. However, there is also a larger percentage of children in the T.O. group reading more than two years above grade level. In group one 18.9% of the children fell in this category compared with 30.6% in group two. These findings are illustrated in Table II.

Table II

Distribution of Comprehension Scores
of i.t.a. and T.O. Sample.

	Group One i.t.a.	Group Two T.O.
Year of testing	1979	1980
Num. of children scoring <u>below</u> grade level - 2.9	46	88
% of children scoring <u>below</u> 2.9	13.4%	22.8%
Num. of children scoring <u>above</u> 4.9	65	118
% of children scoring <u>above</u> 4.9	18.9%	30.6%

Conclusions and Implications

The results of this study give further support to the importance of beginning reading instruction on subsequent success in reading as measured by a standardized test for comprehension. The group of students who had the heavily phonic based i.t.a. program followed by the phonics based Lippincott basal scored significantly better at the end of grade two. The second group had a more meaning based initial approach to beginning reading using the Houghton Mifflin or Ginn basals in grade two. These results suggest that this meaning centered approach was less successful. One cannot use the results of this study

to directly compare the i.t.a. and Houghton Mifflin initial reading approaches in grade one because different materials were used in grade two.

It should be noted that the mean score for both groups tested was much higher than the grade equivalent expected of 2.9. It was 4.10 and 3.78 for groups one and two respectively. Therefore it can be concluded that both programs, as used by the first and second grade teachers in this district, provided an excellent initial experience with reading.

The group introduced to reading with the Houghton Mifflin materials had a much higher percentage of students scoring at the extremes of the testing range. This gives evidence to the possibility that meaning based instruction produces greater differences in achievement and may be a handicap for less able students while being an advantage for the more able students.

The results of this study tend to agree with the researchers who feel that the subskill or phonic approach is the correct way to introduce reading. However, it would be interesting to compare the levels of the two groups when tested for comprehension achievement at the end of the fifth or sixth grade. The level and type of comprehension skills demanded by the ITBS administered at the end of second grade is

very elementary. The Houghton Mifflin program may better prepare the students for the more difficult comprehension skills they will meet in the intermediate grades. There is no evidence yet available to indicate whether the significantly higher achievement in group one is a short term result or will persist into the higher grades. The results on the bottom third of this sample should also be studied with care to determine whether the meaning emphasis of this type of material continues to result in lower achievement. A differential approach to instruction may be indicated for this group.

Note should also be made that the group using the Houghton Mifflin material as a beginning approach was the first class in the district to use this material. While the teachers involved were well qualified and experienced, they did not have the years of familiarity with this that they had had with the i.t.a.-Lippincott materials.

Introduction

A main issue in teaching beginning reading today continues to be whether children should be taught to read from the wholeness of the task or whether they should be taught decoding skills leading to comprehension later. According to Harris and Sipay (1975: 57), many factors combined to stimulate research on this topic in the 1960's and 1970's. They were dissatisfaction with old basals, Chall (1967), linguistic and psychological research, Smith (1971), public pressure, Flesch (1955), and government support and money. While discussion and research never ceases on the subject of when children should be introduced to decoding skills, and how important word recognition is, few researchers are willing to take a position entirely in favor of either pure phonics or pure sight word methodology.

Studies on Phonics

The largest study on beginning reading was conducted by the U.S. Office of Education and consisted of twenty-seven coordinated projects. (Bond and Dykstra 1967) No significant difference in paragraph comprehension was found between the following methods: basal readers, i.t.a., linguistic readers,

diacritically marked readers, supplementary phonics, language experience and phonic-linguistic readers.

In the summary of the second-grade phase of the Cooperative Research Program, Dykstra states, (1968: 48)

"No consistent pattern was found in the relative effectiveness of these programs in terms of pupil comprehension." This study included children who had been introduced to reading through the use of an i.t.a. program as well as a synthetic phonics program in traditional orthography. The author cautioned about generalizing about terminal reading ability from achievement at the end of grade two.

A second large scale review of methods in beginning reading was summarized by Chall in The Great Debate (1967). Chall's conclusions about the advantages of phonic instruction were cautious. She said that methods that provided more attention to word identification skills gave better results. Chall did not endorse separating phonic instruction from meaning and context. Guthrie (1973) found that complex skill development needs both learning and integration of subskills. Research showed that poor readers lacked subskill mastery and integration.

Many studies advocate the early systematic teaching of phonics. Groff (1977) reports that the whole

word method has been repeatedly shown to be inferior to the phonics method. Advocates of strong initial phonics instruction also include Chall (1967), Gibson, Osser and Pick (1963) and Walcutt, Lamport, McCracken and Dykstra (1974). Takahiko (1975) found that Japanese Kanji ideographs, representing words, were more difficult to learn to read than phonetically based words. Stoot (1973) found that children who are taught a decoding strategy before they are called upon to read whole words become better readers than those who begin by memorizing whole words. The reading achievement is higher in both comprehension and decoding.

Samuels (1976) has shown the importance of automatic decoding to reading comprehension. Because the brain can only be attentive to one information source at a time, limits are put on the beginning reader. Automatic decoding allows behavior which formally needed attention to take place without this attention. Until decoding is automatic, comprehension can't take place. Adams (1978) also found that words cannot be decoded and comprehended at the same time. Rereading is necessary for the sentence to be understood.

Rystron (1965) has found that if phonic instruction is delayed until after children have learned many

sounds for the same letter, they are convinced they can pronounce letters any way they please and become confused.

While most early basals used a whole word approach, with most phonics instruction postponed until the second grade, Harris (1972) found that since the 1960's the trend in basals was to introduce decoding skills in the first grade.

The Use of Context

Beimiller (1970) found that the early use of contextual clues by the beginning reader does not help to acquire reading skills and in fact may make a poorer reader at the end of first grade. He concludes that a teacher should do a great deal of work in areas where no context can be used at all. Agreeing with these results are Gröff (1976) and Weber (1970).

Some criticism of phonics is based on the belief that it is too sterile. Research on the use of pictures in beginning reading material (Samuels 1970) has found that pictures interfere with the acquisition of a sight vocabulary. Almost all studies agree that pictures as adjuncts to the printed text do not help comprehension.

But according to Gates (1961), consonants together with context provide the greatest percentage of correct responses. Goodman (1965) has shown that primary grade children are dramatically superior in decoding words when these are presented in context.

1.t.a. Studies

The Initial Teaching Alphabet, known as 1.t.a., is a forty-four character alphabet featuring phoneme-grapheme correspondance. Downing (1967) states that it is essential to understand that 1.t.a. is a writing system not a teaching method. The Early-to-Read 1.t.a. Program (1964) published by 1.t.a. Publications, Inc. teaches beginning reading using a synthetic phonics approach. Researchers have reported (Clark 1977) that young children found the logographic systems, Rebus, Bliss, and Carrier-Peak also easier to learn than traditional orthology.

Downing (1977) feels that the secret of success with 1.t.a. is the way it makes linguistic categories clear for the beginning readers. Research in England, The Bullock Report (1975), Downing (1969) and Downing and Lathan (1969) has reported that children who began with 1.t.a. make much more rapid progress in reading than those who began with t.o.

In the United States Mazurkiewicz (1964) found no difference in reading comprehension between children instructed in i.t.a. and in a basal reader, Sheldon Readers, at the end of second grade. When methodology was carefully controlled, Mazurkiewicz (1966) found no difference in paragraph meaning ability between 118 matched pairs of first grade students, one half of the pair in i.t.a. and the other half in t.o. When judged by instructional levels and reader level of achievement, Mazurkiewicz (1967) found higher comprehension with the i.t.a. sample when methodology was controlled.

Fry (1966) found no statistically significant difference in Paragraph Meaning on the Stanford Achievement Test at the end of grade one between students introduced to reading through i.t.a., traditional orthography or the diacritical marking system. After three years there was still no difference in paragraph comprehension. (Fry 1969) However in a three year longitudinal study comparing beginning reading approaches, Hayes and Wuest (1969) found that the group introduced to reading in i.t.a. and continued in a Merrill basal, scored significantly higher in silent reading achievement than those in the Scott Foresman basals.

In a survey of basals by Harris (1972) it was reported that recent basal series have controlled vocabulary in a manner to increase their phonic regularity. Eclectic basal readers continue the vocabulary control longer than those with a revised orthography such as i.t.a. In the last decade there has been an increased emphasis on decoding in beginning reading instruction.

Additional reports on i.t.a. include Downing (1972) who states that i.t.a. facilitates beginning reading by providing a close match between a child's own language and his reading material.

Studies of the Meaning Component

Much research has been done to examine the meaning component in beginning reading. In a two year study of materials to examine the processes by which children initially approach reading, Osborn (1979) determined that the children could not separate meaning and decoding. Osborn concluded that children expect to find meaning in the printed word and both try to impose structure and elicit meaning from tasks.

In an experimental study of nursery school children, Steinberg (1978) found that written words were easier to learn than written letters and that meaning is a

vastly more influential variable than visual perceptual complexity. This study concluded that a good method of teaching reading would be one in which whole words are taught to the child with the sound value of letters taught at a later time.

Fredrickson (1976) found that primary reading instruction should teach a child to comprehend written discourse in a manner similar to that for oral discourse. Both types of discourse require decoding ability, graphic or auditory. It was concluded that designing instruction for the subgoal of decoding leads to subsequent difficulty in achieving comprehension.

In a study by Miller (1974) conducted to test the thesis that teaching word recognition skills in a manner compatible with the learners auditory or visual modality, it was found that there was no difference in final results testing word recognition skills between the group where whole word units were stressed and the group where phonics were stressed. Also finding no clear advantage between code and meaning emphasis was Beck (1977) who found that phonics and meaning instruction can be mutually supportive. Modifying commercial materials to be useful in phonics instruction, gave significant gain.

Haskisson (1979) advocates teaching reading as a

whole task by a technique he refers to as assisted reading. He disagrees with intensive phonics instruction in beginning reading because it uses only the phonological system of a child's language ability ignoring the syntactic and semantic systems. These are used only with stories and books. McKenzie (1977) gives research evidence of the use of meaning clues to advance early literacy. An overconcern with teaching decoding subskills risks giving them a restricted idea what literacy is.

Robovich (1978) found that any comparison between programs emphasizing decoding versus ones emphasizing meaning should also take into account the cognitive development of the beginning reader which may be at various Piagetian stages.

In a study of several decades of applied research Resnick (1977) concluded that when skill in word recognition is the outcome studied, code orientated programs are more effective than language orientated programs especially with low socio-economic groups and low achievers. However, when comprehension development is the criterion, there is no clear advantage to either program. The report recommends that national reading policy include both systematic code-orientated instruction, particularly in the primary grades and carefully defined language experience instruction

which builds on the child's own writing and dictation.

Language Related Research

Oral vocabulary plus word recognition does not necessarily give meaning. Findings by researchers such as Katz and Bent (1968) Chomsky (1972) and McConaughy (1978) show evidence that even school-age children do not fully understand the meaning of many words in their speaking vocabulary and that they encounter when beginning to read. This research concludes that divorcing word recognition and meaning is counterproductive. The goal of decoding is instant recognition of total words.

McConaughy states, (1978:954) "When applied to reading, the conclusion seems unavoidable that simple use of a word in a child's speaking vocabulary and and recognition of it in a printed form, does not guarantee a child will understand its full meaning in a given context."

Reading is in large part a language process. Research by Palmer (1979) suggests that code and meaning should be taught together. Studies by Loban (1963) and Strickland (1962) show that students rated high in language can draw upon this facility for early reading and score higher on comprehension tests.

Adams (1977) found that the reader's experience and information are as important to comprehension as what is on the printed page. Rush, Moe and Manning (1979) found that the language of basal readers does appropriate the child's language in the first grade level for middle class children.

Conclusions

It is difficult to compare methods in beginning reading instruction because most children learn to read by a variety of methods. (Harris 1975: 73) Certainly the skill of the teacher, the pupil's ability and the total learning environment are also important factors. A survey of the research leads one to the conclusion that it is wise not to use one approach strongly but to try and combine the best facets of a code and meaning emphasis.

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